



598 SERIES

Infrared SMD LED

3528 PLCC-4 Package Top View 850nm
With Dome Lens

MECHANICAL / SPECIFICATIONS

PART NUMBER:
[598-2JA0-103IRF](#)

DIMENSIONS:
3.5 x 2.8 x 3.5mm

LENS COLOR:
Diffused

LENS MATERIAL:
Epoxy

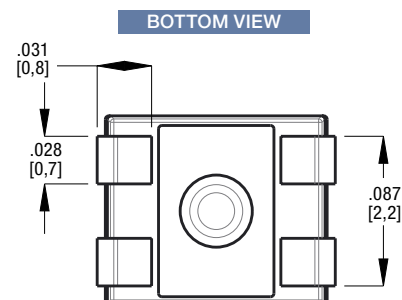
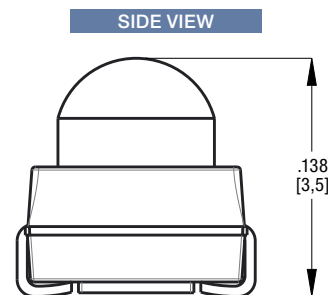
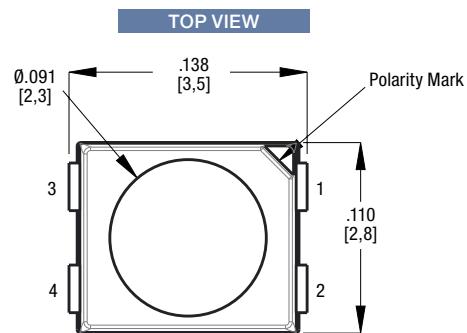
STANDARD PACKAGING:
2000/reel

MOISTURE SENSITIVITY LEVEL:
3

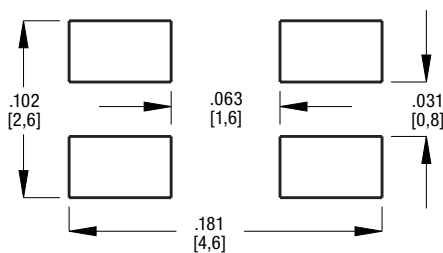
CERTIFICATIONS & RATINGS

RoHS Compliant

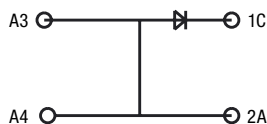
DIMENSIONS inches [mm]



RECOMMENDED PAD LAYOUT



LED SCHEMATIC



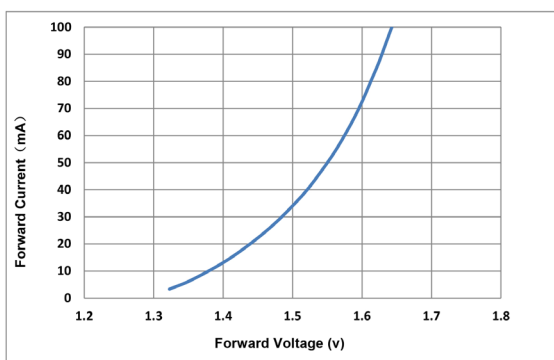
ABSOLUTE MAXIMUM RATINGS AT Ts=25°C

Symbol	Parameter	Ratings	Units
P _D	Power Dissipation	190	mW
I _F	Forward Current	100	mA
I _{FP}	Peak Forward Current	700	mA
V _R	Reverse Voltage	5	V
E _{SD}	Electrostatic Discharge	2000	V
T _{OPR}	Operating Temperature	-40~+100	°C
T _{STG}	Storage Temperature	-40~+100	°C
T _J	Junction Temperature	120	°C

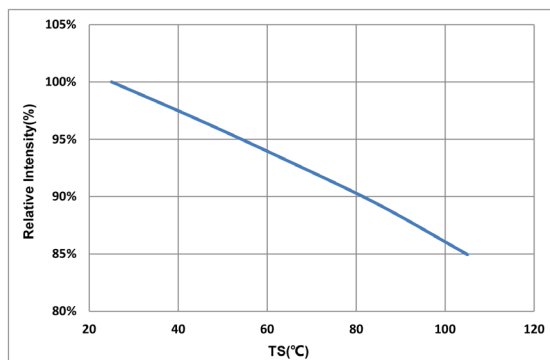
ELECTRICAL - OPTICAL CHARACTERISTICS AT Ts=25°C

Symbol	Parameters	Test Conditions	Min	Typ	Max	Unit
V _F	Forward Voltage	I _F =100mA	1.2	1.6	1.8	V
I _R	Reverse Current	V _R =5V	-	-	10	μA
I _e	Radiant Intensity	I _F =100mA	71.5	180	285	mW/sr
Wd	Peak Wavelength	I _F =100mA	840	850	860	nm
2θ½	Viewing Angle	I _F =100mA	-	30	-	deg
R _{THJ-S}	Thermal Resistance	I _F =100mA	-	-	130	K/W

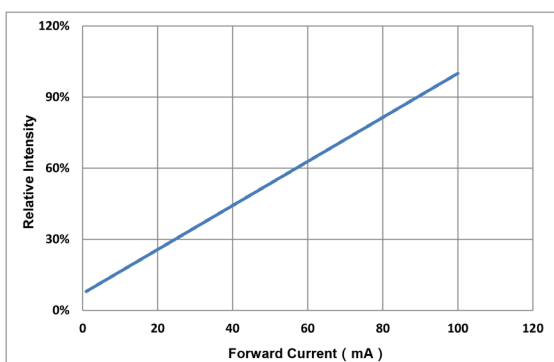
TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS



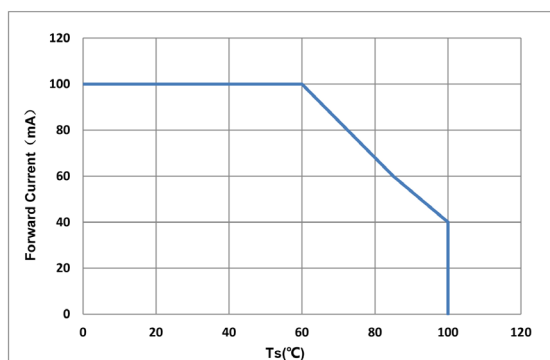
Forward Voltage vs Forward Current



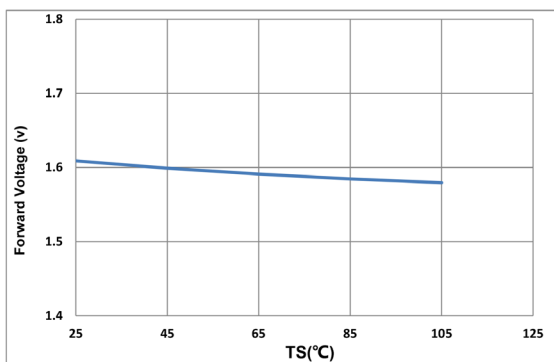
Solder Temperature vs Relative Intensity



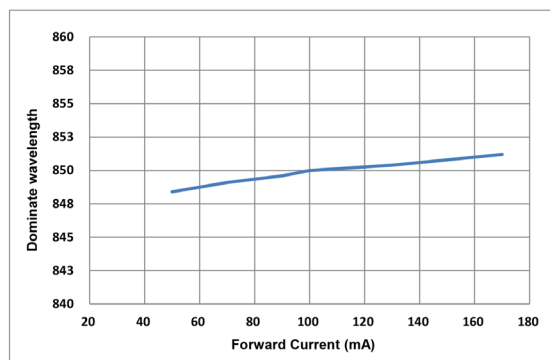
Forward Current vs Relative Intensity



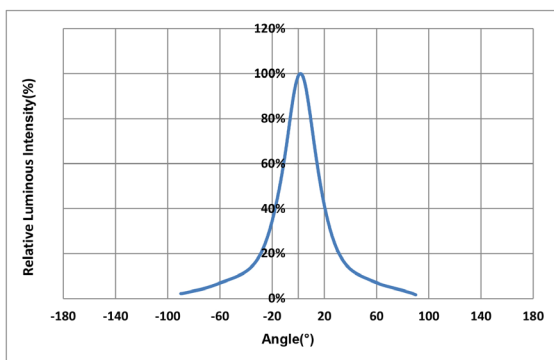
Solder Temperature vs Forward Current $T_J \leq 120^\circ\text{C}$



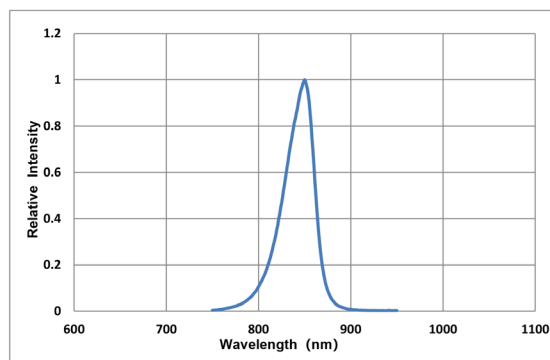
Forward Voltage vs Solder Temperature



Forward current vs. Dominate Wavelength (Ts=25°C)

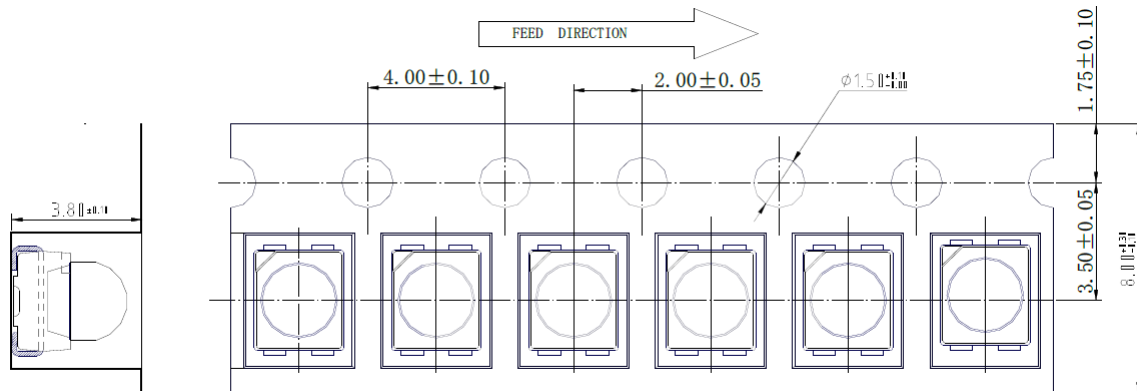


Radiation Diagram

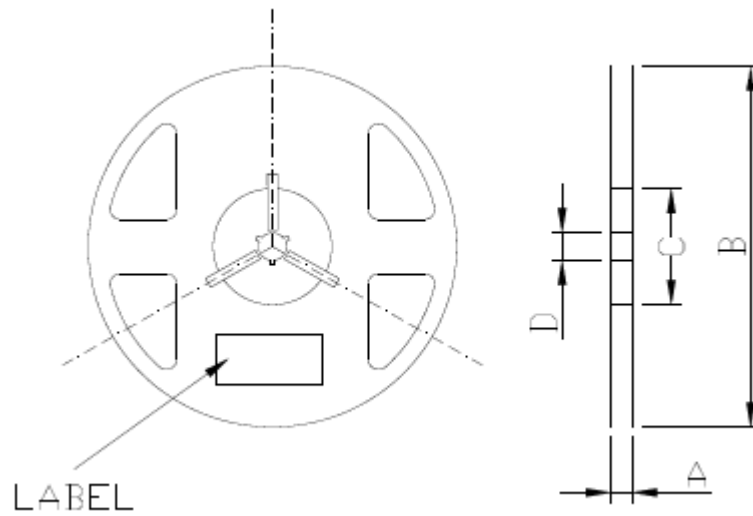


Spectrum Distribution

TAPE AND REEL SPECIFICATION



Dim A	Dim B	Dim C	Dim D
16.6 ± 0.3	330 ± 1	60 ± 0.2	13.6 ± 2

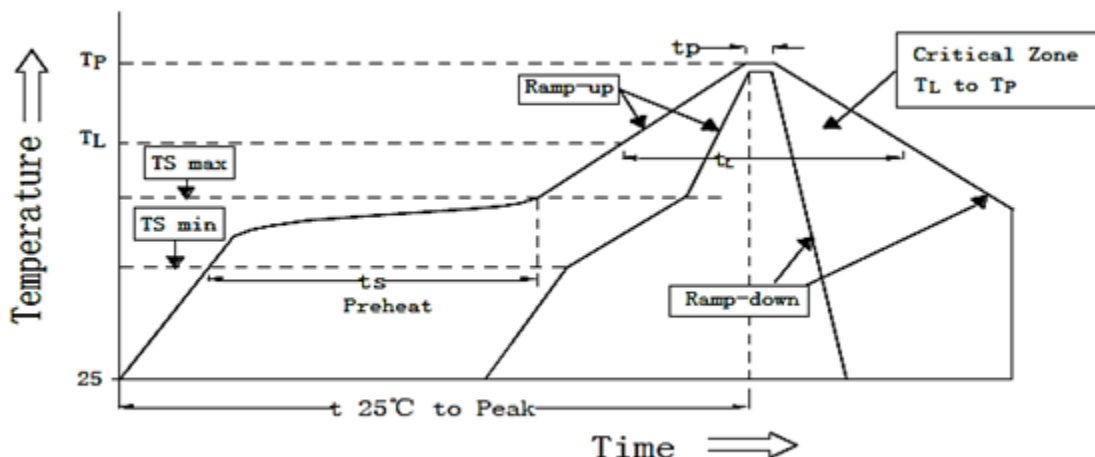


REFLOW SOLDERING

Recommended soldering paste specifications:

1. Reflow soldering should not be done more than two times.

LEAD-FREE SOLDER PROFILE



Average temperature rise speed ($T_{smax} - T_p$)	Max 3 °C/ s
Preheating: minimum temperature (T_{smin})	150 °C
Preheating: Max temperature (T_{smax})	200 °C
Preheating: Time ($T_{smin} - T_{smax}$)	60s-120s
Time limited to maintain high temperature: the temperature (T_L)	217 °C
Time limited to maintain high temperature: The Time (t_L)	Max 60s
Peak / Classification of temperature (T_p)	260 °C
Time limit classification of peak temperature time (t_p)	Max 10s
Hold time within 5 °C with the actual peak temperature (T_p)	Max 30s
Cooling speed	Max 6 °C/ s
Needed time from 25 °C to T_p	Max 8 minutes